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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,958	09/09/2003	Akihiro Ouchi	CFA 00006 US	3512

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Canon U.S.A. Inc.
Intellectual Property Department
15975 Alton Parkway
Irvine, CA 92618-3731

EXAMINER

SHERMAN, STEPHEN G

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,958

Applicant(s)

OUCHI ET AL.

Examiner

Stephen G. Sherman

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/15/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figures 12 and 13 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuhashi et al. (US 6,583,771) in view of Shirasaki et al. (US 6,943,753).

Regarding claims 1 and 16, Furuhashi et al. disclose an image display device having a display unit (Figure 1, item 101-1 and item 102-1) and a display control apparatus for controlling an image display device (Figure 1, item 101-1) having a display unit (Figure 1, item 102-1), comprising:

input/output means for transferring image data input from the image display device disposed at an upstream location to an image display device disposed at a downstream location (Figure 1, item 104 and column 5, lines 9-14. The examiner interprets that since the input data processor 104 receives image information from the display data bus 103, and then transfers the image input data to the next image display device 101-2 located downstream, that this would be an input means for transferring data between the two image display devices and output means for transferring the data to the next display device.);

acquisition means for acquiring resolution information associated with the image display device (Figure 1, item 131, column 5, lines 57-65 and column 7, lines 1-9. The examiner interprets that since the microcomputer 128 receives a command and loads data into the registers that it is acquiring resolution information from the control data processing unit 131 which receives control data from an external computer system.); and

generation means for generating resolution information on the basis of the resolution information acquired by the acquisition means and a resolution of the display unit (Figure 1, item 112. The examiner interprets that since the enlarged data processor accepts information from the frame memory controller and the enlargement rate registers that it is generating resolution information based on the data which is received by the acquisition means and a resolution of the display unit since it takes into account the enlargement rates.);

Furuhashi et al. fail to teach of an image display device having a display unit, comprising:

acquisition means for acquiring resolution information associated with the image display device disposed at the downstream location;

and first storage means for storing the generated resolution information for supply to the image display device disposed at the upstream location.

Shirasaki et al. disclose an image display device having a display unit, comprising:

acquisition means for acquiring resolution information associated with an image display device disposed at the downstream location (Column 6, lines 27-40. The examiner interprets that since the computer receives EDID data from the DDC control means of the monitor, that it is acquiring resolution information associated with an image of a display device located downstream from the computer.);

and first storage means for storing resolution information for supply to a computer disposed at the upstream location (Figure 1, item 54 and column 6, lines 27-40).

Therefore it would have been obvious to “one of ordinary skill” in the art to use the input/output control method of acquiring information as taught by Shirasaki et al. with the multidisplay control system taught by Furuhashi et al. in order to provide a device which is capable of automatically making a correct setting of input channel, EDID data and the like in accordance with the specification of an input signal in a display monitor having a DDC function.

Regarding claims 2 and 17, Furuhashi et al. and Shirasaki et al. disclose an image display device according to claims 1 and 16. Shirasaki et al. also disclose a display device further comprising

communication processing means for performing DDC (Display Data Channel) communication with an external device (Figure 1, item 55); and

a memory for storing EDID (Extended Display Identification Data) information transformed in the DDC communication (Figure 1, item 54),

wherein the acquisition means acquires resolution information using the communication processing means (Since the examiner interprets that the DDC control means 55 is the acquisition means and the communication processing means, the acquisition means would use the communication processing means.).

Furuhashi et al. also disclose wherein a storage means stores the resolution information generated by the generation means by rewriting a corresponding item of the information in the memory (Figure 1, items 110 and 111 and column 6, lines 30-42. The examiner interprets that since the positions can be controlled by changing the write positions, that this changes the resolution and this information is stored in the memory.).

Regarding claim 3, Furuhashi et al. and Shirasaki et al. disclose an image display device according to claim 1. Furuhashi et al. also disclose an image display device further comprising

direction detection means for detecting whether image display devices connected at downstream locations are arranged in a vertical or horizontal direction (Figures 5 and 6 and column 8, line 47 to column 9, line 32. The examiner interprets since identification numbers are given to the display devices based on their locations in the multidisplay system that it is detected whether the image display device is located in a horizontal or vertical direction with respect to the first image display device connected to the controller.),

wherein the generation means generates the resolution information by cumulatively adding the resolution of the display unit with the resolution information

acquired by the acquisition means in the direction determined by the direction detection means (Figures 5 and 6 and column 9, lines 14-32. The examiner interprets that since the display units located at directions determined by the direction detection means are identified by ID numbers and then the sum of a number of lines corresponding to a range from the leading edge of the vertical synchronizing signal, that this is adding the resolution cumulatively in the direction detected.).

Regarding claim 4, Furuhashi et al. and Shirasaki et al. disclose an image display device according to claim 1. Furuhashi et al. also disclose an image display device further comprising

detection means for detecting a location of a present image display device in the multidisplay system (Figure 1, item 129 and Figures 5 and 6 and column 8, line 47 to column 9, line 32. The examiner interprets since identification numbers are given to the display devices based on their locations in the multidisplay system that the location of a present image display device is detected.);

determination means for determining which part of the image data should be displayed by the present display unit on the basis of the location detected by the detection means (Figure 1, item 129 and Figures 5 and 6 and column 8, line 47 to column 9, line 32. The examiner interprets since identification numbers are given to the display devices based on their locations in the multidisplay system that this determines which part of the image data should be displayed by the present display unit.); and

display control means for displaying the part of the image data (Figure 1, item 131.).

Regarding claim 5, Furuhashi et al. and Shirasaki et al. disclose an image display device according to claim 4. Furuhashi et al. also disclose an image display device

wherein the display control means determines the display scaling factor on the basis of the number of pixels of the part of the image data to be displayed and on the basis of the resolution of the display unit (Figure 1, items 112, 120 and 121 and column 9, lines 33-54. The examiner interprets that the enlargement rate numerator and the enlargement rate denominator are determined based on the resolution of the image devices, which sets the display scaling factor.),

converts the resolution of the part of the image data in accordance with the determined display scaling factor (Figure 1, item 112), and

displays the part of the image data on the display unit (Figure 1, items 116 and 102-1 and column 9, lines 33-54).

Regarding claim 6, Furuhashi et al. and Shirasaki et al. disclose an image display device according to claim 4. Furuhashi et al. disclose an image display device wherein the detection means comprises

second storage means for acquiring chain connection information indicating the manner in which further image display devices are chain-connected at downstream

locations of the image display device (Figure 1, item 129 and column 5, lines 58 to column 6, line 3. The examiner interprets that the ID setting circuit 129 is a storage means for acquiring chain connection information since it is connected to the control data processing circuit 131, which is connected to the control data processing circuits of the downstream devices 101-2 through 101-n and that the ID number must be set in accordance with the number of display devices connected to each other, therefore the ID setting circuit must acquire information according to how the rest of the display devices are connected.),

generating chain connection information associated with the present image display device on the basis of the acquired chain connection information (Figure 1 and column 5, line 58 to column 6, line 3. The examiner interprets that the ID setting circuit not only acts as a storing means for the chain information but also generates chain information since the ID number must be set based on the ID numbers of the other connected display devices.),

storing the generated chain connection information such that an image display device at an upstream location can acquire the chain connection information (Figure 1 and column 5, line 58 to column 6, line 3. The examiner interprets that the ID number is stored in the ID setting circuit which is connected to the control data processing circuit which communicates between display devices, i.e. a display device at an upstream location.); and

third storage means for acquiring the total number of image display devices connected at downstream locations from the adjacent image display device at the

downstream location and storing the total number of image display devices such that the image display device at the upstream location can acquire it (Figure 1, item 130 and column 5, line 58 to column 6, line 3. The examiner interprets that the total number of display devices is stored in the data storing memory 130 which is available for the display devices 101-1 to 101-n connected through control processing circuit 131 to acquire.) ,

wherein the detection means determines the location of the present image display device in the multidisplay system on the basis of the chain connection information and the total number of image display devices (Figure 1, item 129 and Figures 5 and 6 and column 8, line 47 to column 9, line 32. The examiner interprets since identification numbers are given to the display devices based on their locations in the multidisplay system that the location of a present image display device is determined based on the total number of displays and chain information received from the adjacent display devices.).

Regarding claim 7, Furuhashi et al. and Shirasaki et al. disclose an image display device according to claim 6. Furuhashi et al. also disclose an image display device further comprising

direction detection means for detecting whether image display devices connected at downstream locations are arranged in the vertical or horizontal direction (Figure 1, item 129 and Figures 5 and 6 and column 8, line 47 to column 9, line 32. The examiner interprets that since identification numbers are given based on the display devices'

locations, that means are provided to determine if the device is connected in the horizontal or vertical direction.),

wherein the chain connection information includes information indicating the total number of image display devices chain-connected in the vertical direction and information indicating the total number of image display devices chain-connected in the horizontal direction (Figure 1 and column 5, line 58 to column 6, line 3. The examiner interprets that since the ID number is set based on the horizontal or vertical direction, that information must be passed between the display devices so that the ID number can be set based on the horizontal and vertical directions.).

Regarding claim 8, Furuhashi et al. and Shirasaki et al. disclose a multidisplay system including a plurality of image display devices according to claim 1, wherein the plurality of image display devices are connected to each other and a host computer is connected to an image display device at a most upstream location (Figure 1 and column 5, line 58 to column 6, line 3. The examiner interprets that the external system could be a host computer.).

Regarding claim 9, please refer to the rejection of claim 1. The examiner understands that since it is previously stated in the rejection of claim 1 that there is an image display device comprising an input/output, acquisition, generation and first storage means, that the method of inputting image data, acquiring resolution

information, generating resolution information and storing the generated resolution information would also be present.

Regarding claim 10, please refer to the rejection of claim 2. The examiner understands that since it is previously stated in the rejection of claim 2 that there is a means for performing DDC communication and a memory for storing EDID information, that the method of performing DDC communication and storing the EDID information is also present.

Regarding claim 11, please refer to the rejection of claim 3. The examiner understands that since it is previously stated in the rejection of claim 3 that there is a direction detection means, that the method detecting is also present.

Regarding claim 12, please refer to the rejection of claim 4. The examiner understands that since it is previously stated in the rejection of claim 4 that there is a detection, determination and a display control means, that the method of detecting, determining and displaying is also present.

Regarding claim 13, please refer to the rejection of claim 5. The examiner interprets that since it is previously stated in the rejection of claim 5 that there is a display control means for determining the display scaling factor, that the method of determining the display scaling factor is also present.

Regarding claim 14, please refer to the rejection of claim 6. The examiner understands that since it is previously stated in the rejection of claim 6 that there is a second storage means for acquiring, generating and storing chain connection information and a third storage means for acquiring and storing the total number of image display devices, that the method of acquiring, generating and storing chain connection information and acquiring, storing the total number of image display devices and detecting the location of the present image display device are also present.

Regarding claim 15, please refer to the rejection of claim 7. The examiner understands that since it is previously stated in the rejection of claim 7 that there is a direction detection means, that the method of determining the direction is also present.

Regarding claim 18, please refer to the rejection of claim 2. The examiner understands that since it is previously stated in the rejection of claim 7 that there is an acquisition means that uses the communication processing means and that the storage means stores the resolution information, that the method of using a communication processor and storing the resolution information are also present.

Conclusion

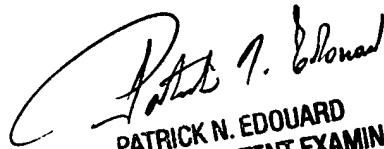
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS

4 January 2006


PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER